USEPA Region 6 Geographic Information System Screening and Analysis Tool (GISST)

The Region 6 **GISST** is a Geographic Information System (GIS)-driven screening level process, which evaluates environmental vulnerability and impact through the use of over 100 different types of environmental resource and stressor "criteria" developed by EPA.

The **GISST**'s utility is in it's mapping and analytical capabilities. It combines the collective technical assessments performed by EPA into a mathematical algorithm and uses "natural weighting" to identify and map environmental concerns. This means that the weight is driven by the environmental information or criteria characterizing that geographic area and not by an arbitrary assignment.

The EPA Region 6 NEPA Program, in conjunction with the GIS Program (both housed by the Compliance Assurance and Enforcement Division), is expanding its analysis capability to evaluate potential environmental impacts resulting from highway construction activities. The application facilitates consistent NEPA 309 reviews, in addition to enabling EPA to provide quick and early notification of environmental concerns regarding EIS's and EA's for transportation projects. It can also assist transportation agencies in determining and developing alternatives (e.g., study corridors, alignments) which best avoid adverse environmental impacts. These features make it an excellent compliance assistance and environmental streamlining tool.

The Region 6 Geographic Information System Screening and Analysis Tool (**GISST**) was originally developed to assess and flag a variety of single and multi-media environmental concerns for purposes of enforcement targeting and environmental justice analyses (over 6000 analyses completed to date). Current activities are underway to expand the Region 6 **GISST** in order to better support NEPA transportation needs - from planning and scoping phases to Final EIS and ROD. Examples of specific assistance include identification of sensitive areas (e.g. - endangered species habitat, wetlands, parks, streams & rivers, cultural resources, air non-attainment areas, etc.), environmental assessment of alternatives to support decisions on selection, and locations of potential borrow, disposal and fill materials for construction sites.

The use of GIS-driven analysis tools has a long history within EPA. However, other federal and state agencies, such as the Federal Highway Administration (FHWA), have recently begun to recognize and advocate its utility. According to a recent FHWA position statement

> " GIS can be employed to consolidate environmental and engineering data, consider key environmental and social issues before alternatives (are) developed, and logically refine the study area to where more detailed efforts can be conducted. We find this to be a reasonable and acceptable approach."

Much of this focus is also in response to environmental streamlining requirements per the Transportation Equity Act of 2001 (TEA-21). EPA Region 6 has found the **GISST** to be an excellent tool for cutting NEPA review time, while compensating for staffing shortfalls, whether responding to transportation or a variety of other NEPA-related activities. Transportation agencies that have successfully applied similar GIS technology to help address NEPA requirements have been able to cut total processing time by 30 - 50% (from pre-scoping to Record of Decision).

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